

REMARKS

The application includes claims 1, 2, 4-9, 11-16, 18-23, 25, and 26 prior to entering this amendment.

The examiner rejects claims 1, 5, 8, 12, 15, 19, 22, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Matthews Jr. et al. (U.S. Patent 6,457,125 B1) in view of Fletcher et al. (U.S. Patent 6,009,274), Richman et al. (U.S. Patent 5,655,148), and Lee (U.S. Patent 5,748,912).

The examiner rejects claims 2-4, 9-11, 16-18, and 23-25 under 35 U.S.C. 103(a) as being unpatentable over Matthews, Fletcher, Richman, and Lee, as applied to claims 1, 8, 15, and 22 respectively above, in view of Collins (U.S. Patent 5,671,355).

The examiner rejects claims 6-7, 13-14, and 20-21 under 35 U.S.C. 103(a) as being upatentable over Matthews, Fletcher, Richman, and Lee, as applied to claims 1, 8, and 15 respectively above.

The applicant amends claims 1, 4, 8, 11, 15, 18, 22, and 25. The application remains with claims 1-2, 4-9, 11-16, 18-23, and 25-26 after entering this amendment.

The applicants add no new matter and request reconsideration.

Claim Rejections - 35 U.S.C. § 103

The primary reference cited, Matthews, Jr. et al., shows a method and apparatus for securely configuring a programmable hardware device from a remote source. The Matthews device shows a programmable logic module 120, which is configured according to information remotely received and stored in memory in the configuration engine 140. This memory can be “flash, such as erasable programmable read only memory (EPROM) and electrically erasable programmable ROM (EEPROM) or static RAM (SRAM)” (col. 2, lines 7-9). However, there is no mention, in Matthews, that this device is specifically designed for networked communications. In devices designed for networked communications, it has been customary to use Programmable Read Only Memory (PROM) to hold the hardware configuration information (see applicant’s disclosure, page 5, lines 4-6). Likely this is because flash memory, deemed here to include EEPROM, can be more unstable and require more power, qualities that may be seen as

undesirable in close-packed, high-speed networking devices where costs relating to network downtime can be prohibitive.

In Matthews, any configuration instructions that are remotely loaded will automatically replace any existing configuration instructions. Applicant has amended independent claims 1, 8, 15, and 22 to emphasize that applicant uses a **dual flash memory** system including, for example, a “*first flash memory unit*” and a “*second flash memory unit*.” These claims further recite that the second flash memory, holding the updated hardware configuration, is **erased and rewritten independently** of the first flash memory, holding the default hardware configuration. By using this “sector programmable” feature of dual flash memory (see applicant’s disclosure, page 11, lines 15-22), instabilities are reduced and traffic downtime is restricted because the networking device can continue to use the default hardware configuration until the reliability of the updated hardware configuration has been verified.

Regarding amended independent claims 1, 8, 15, and 22, neither Matthews nor the other art cited by the examiner shows this **dual flash memory** feature in the context of a **hardware-programmable networking device**. Applicant would note that a minor feature (relating to boot process initiation of programming) was deleted from these claims as not significant to applicant’s broadest invention. Applicant would further note that, contrary to what the Action indicates, Richman does not show a programmable logic unit coupled with a network communications device via a removable card. Instead Richman shows a nonconfigurable “network” device 20 directly connected to a computer bus 15 (e.g., a network interface versus networking device), where self-identifying information provided by the device (or on an installation disk, col. 4, lines 46-47) allows the computer to load the proper **software** driver for the device (col. 4, lines 61-67).

Based on the foregoing, then, it is submitted that independent claims 1, 8, 15, and 22 patentably define over the art of record. Furthermore, dependent claims 2, 4-7, 9, 11-14, 16, 18-21, 23, and 25-26, containing each limitation of their respective base independent claim, likewise patentably define over this art.

The above discussion has noted how the use of flash memory, in particular flash memory enabling dual memory erase and rewrite capabilities, can provide a hardware-configurable networking device capable of operating in high-traffic networks without creating prohibitive costs relating to downtime. There is yet another aspect of applicant’s invention, which is recited

in amended claims 4, 11, 18, and 25, that works to keep these downtime costs under control. These claims recite that download of the updated hardware configuration is initiated *upon request of the network communications device based on low network usage*. That is, instead of the updating process being initiated remotely, the network communications device locally determines when updating will occur so that such updating corresponds with low levels of traffic activity (e.g., when the device requires the least resources to handle the traffic volume; see applicant's disclosure, page 20, lines 4-9). This feature, not found in the art of record, provides a separate basis for the patentability of dependent claims 4, 11, 18, and 25 even apart from their respective base independent claims.

Conclusion

For the foregoing reasons, reconsideration and allowance of claims 1-2, 4-9, 11-16, 18-23, and 25-26 of the application as amended is requested. The examiner is encouraged to telephone the undersigned at (503) 224-2170 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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